

REMARKS

In an Office Action dated April 2, 2009, the Examiner objected to claims 7 and 13 due to informalities. The Examiner rejected claims 7-10, 12, 13, and 15-17 under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, in particular objecting to the expression in claim 7 of “deliver data ... from said mobile node,” as data cannot be delivered *from*, but only *to*, a mobile node.

The Examiner then rejected claims 1, 2, 4-6, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over La Porta et al. (European patent no. EP 1 011 241, hereinafter referred to as “La Porta”) in view of Immonen et al. (U.S. patent no. 7,006,472, hereinafter referred to as “Immonen”), Jang et al. (U.S. patent publication no. 2001/0043571, hereinafter referred to as “Jang”), Prasad et al. (U.S. patent no. 7,054,328, hereinafter referred to as “Prasad”), Heller (U.S. patent no. 7,139,833), and Hennessey et al. (U.S. patent no. 7,398,301, hereinafter referred to as “Hennessey”). The Examiner also rejected the following claims under the following art:

- claims 3 and 18 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Immonen, Jang, Prasad, Heller, Hennessey, and further in view of Shitama (U.S. patent no. 7,257,104),
- claim 7 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Hennessey, Li (U.S. patent no. 6,385,174), and Templin (U.S. patent publication no. 2001/0040895),
- claims 8, 9, 13, and 17 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Hennessey, Li, Templin, and Heller,
- claims 10 and 16 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Hennessey, Li, Templin, Heller, and Shitama, and
- claims 12 and 15 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Hennessey, Li, Templin, Heller, and Immonen.

The rejections and objections are traversed and reconsideration is hereby respectfully requested.

Objection to claims 7 and 13 due to informalities

The Examiner objected to claim 7 due to an informality, in particular contending that claim 7 provides teaches “a means for analyzing said message to determine a route to *deliver data one or more of to said mobile node and from said mobile node*,” which is missing “to” between “data” and “one” and that the “mobile node” should be plural. In order to clarify this expression, claim 7 has been amended to provide “a means for analyzing said message to determine a route to *one or more of deliver data to, and receive data from, said mobile node*.” The applicants believe that this expression should now be clear and respectfully request that the Examiner withdraw the objection to claim 7.

The Examiner also objected to claim 13 due to an informality, in particular objecting to the division sign “÷”. The applicants had intended to amend claim 13 by deleting a colon “:” and, more particularly, by striking through the colon. To clarify the amendment, the applicants have now surrounded the ‘struck through’ colon with double brackets.

Rejections of claims 7-10, 12, 13, and 15-17 under 35 U.S.C. §112, second paragraph

The Examiner rejected claims 7-10, 12, 13, and 15-17 under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner contended that the feature of claim 7 of “a means for analyzing said message to determine a route to *deliver data one or more of to said mobile node and from said mobile node*” is indefinite as it is not possible to “deliver data *from*” This expression in claim 7 has been amended to provide “a means for analyzing said message to determine a route to *one or more of deliver data to, and receive data from, said mobile node*.” The applicants believe that the meaning of this expression should now be clear. Accordingly, the applicants

respectfully request that the Examiner withdraw the rejections of claims 7-10, 12, 13, and 15-17 under 35 U.S.C. §112, second paragraph.

Rejection of claims 1, 2, 4-6, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Immonen, Jang, Prasad, Heller, and Hennessey

The Examiner rejected claims 1, 2, 4-6, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Immonen, Jang, Prasad, Heller, and Hennessey. Specifically, with respect to claim 1, the Examiner contended that La Porta teaches mobile IP (Internet Protocol) wireless access for an IP-based network of mobiles that includes,

generating a path setup message by a mobile device (MN) that is used to update routing tables for selected routers (col. 16, lines 20-31; col. 18, lines 16-18; FIG. 9, item 314), wherein the path setup message informs a receiving router of the current IP address assigned for a mobile device within a domain,

receiving the message, by a base station BS11, and forwarding the message so that it is received by a domain root router (FIG. 17, item 360) (col. 35, lines 1-8, 26-31, and 46-53; wherein col. 12, lines 28-34 teach that a dynamic host configuration protocol (DHCP) server may be implemented within a root router),

processing the message, at the domain root router, and adding a routing table entry corresponding to the MN for forwarding packets destined to the MN (col. 35, line 57, to col. 36, line 17),

upon receiving the path setup message, a base station (BS) creating a routing entry for routing packets for delivery to the MN (col. 35, lines 4-26),

the MN handing off from one BS to another BS, which causes the MN to generate and transmit a path setup message and routers to forward a path setup message (that is, the claimed repeating the steps of generating, transmitting and forwarding a second message when the MN attaches to a second access node) (col. 34, lines 41-43 and 54-55; col. 35, line 1, to col. 36, line 25; and FIG. 17),

which message is forwarded by a BS to a root router and intermediate routers to refresh routing table entries (col. 16, lines 34-38 and 43-46).

The Examiner acknowledged that La Porta does not teach stateful IPv6 autoconfiguration, an access node that adds its own address to a route maintenance message, a route update message from a server to a number of network elements between an access node and a server, repeating the steps of generating, transmitting and forwarding for a second stateful IP autoconfiguration message that confirms the IP address of said mobile node when said mobile node attaches to a second access node, or triggering a message from a node and a server substantially simultaneously. However, the Examiner contended that Immonen teaches a stateful IP autoconfiguration message (col. 31, lines 25-28), Jang teaches an access node substituting its own address in a message (paragraph 0115), Prasad teaches an update message from a server (col. 7, lines 60-63), Heller teaches repeating steps of generating, transmitting and forwarding for a second message that confirms the IP address of the MN when the MN attaches to a second access node (col. 2, lines 14-19, and col. 3, lines 60-67), and Hennessey teaches triggering a message from a node and a server substantially simultaneously (col. 3, lines 50-56). The applicants believe that the Examiner has misapplied the cited references to the claims.

As acknowledged by the Examiner, La Porta does not teach stateful IPv6 autoconfiguration. La Porta is directed to an IPv4 system. Stateful versus stateless address auto-configuration is a distinctive characteristic of IPv6 and is a distinction that does not exist in IPv4 and therefore does not exist in LaPorta. Claim 1 further provides for the MN generating, and conveying to the access node, a first stateful IP autoconfiguration message. By contrast and as noted by the Examiner, La Porta teaches the MN generating and conveying a path setup message. These messages have different semantics and claim 1, in using a stateful IP autoconfiguration message, uses a standard message while La Porta teaches a new message that is proprietary to La Porta. Thus La Porta requires modifications to the MN that are not required by claim 1. In addition,

claim 1 teaches the DHCP server generating route update messages. By contrast, the DHCP server taught by La Porta does not generate a path setup message.

Furthermore, claim 1 teaches that when the MN attaches to a second access node, the MN merely conveys a stateful IP autoconfiguration message that confirms the IP address of said mobile node. Again, not only are stateful IP autoconfiguration messages not taught by La Porta, but La Porta teaches that when a MN attaches to a new base station, the MN conveys a path update message to the new base station that includes the IP addresses of the old and new base stations, which path update message then is forwarded around the network. By contrast, claim 1 teaches that the MN merely sends, to the new access node, an IP address confirmation message, which is not a route update message and does not exist in IPv4, and the path update messages are generated by the access node and DHCP server. In contrast to claim 1, the DHCP server taught by La Porta does not generate any path setup or handoff path setup messages.

The Examiner contended that Immonen teaches stateful autoconfiguration. However, while Immonen teaches DHCPv6, Immonen teaches that the MN uses DHCPv6 to acquire a new IP address. By contrast, claim 1, as amended, teaches use of a stateful IP autoconfiguration message to confirm a previously acquired address. In this way, in the teachings of claim 1, the MN does not acquire a new address and merely uses the previously acquired address, allowing for MN mobility to be supported by the core network without requiring an address change. *As an IP address confirmation message does not exist in IPv4 (La Porta) and is not taught by Immonen*, the combination of La Porta and Immonen cannot be construed to teach the feature of claim 1 of a stateful IP autoconfiguration message that confirms a previously acquired address

Further, claim 1 provides for analysing the first stateful IPv6 autoconfiguration message at each of a DHCP server and an access node and, in response, the DHCP server and access node generating path setup messages. The Examiner does not contend that LaPorta teaches the DHCP server generating path setup messages, as the sections of LaPorta cited by the Examiner in rejecting the features, that is, column 16, lines 34-38

and 43-46, column 35, lines 4-26, and column 35, line 57, to column 36, line 17, merely teach a mobile device or a base station generating a path setup message. The Examiner then contended that Prasad teaches, at column 7, lines 60-63, an update message from a server. However, while La Porta and Prasad may teach an individual element of a network generating a path setup message, neither La Porta nor Prasad teaches multiple network elements concurrently generating path setup messages.

The Examiner then contended that Hennessey teaches the feature of claim 1 of triggering a message from a node and a server substantially simultaneously (col. 3, lines 50-56). Column 3, lines 50-56, of Hennessey teaches two end points in a communication session, that is, a client that is downloading content from a server and the server that stores the content, simultaneously sending messages to each other to initiate a communication session with each other. These are end points of a communication session exchanging communication session setup messages that are intended for each other. By contrast, the referenced feature of claim 1 does not teach the MN doing anything or simultaneous triggering of communication session setup messages at two endpoints, which messages are intended for the other endpoint. The messages taught by Hennessey are not route update messages and the access node and DHCP server of claim 1 are not the end points of a communication session, they are not exchanging messages intended for each other, and they are not generating communication session setup messages. Therefore, Hennessey does not teach the feature of claim 1 of substantially simultaneous triggering one or more route update messages from the access node and the DHCP server to a number of network elements between said access node and said DHCP server in the IP based data network.

Therefore, the applicants respectfully submit that the cited references, individually or in combination, does not teach the features of claim 1 of generating a first stateful IPv6 autoconfiguration message at an MN, wherein the message contains an IP address capable of use for route maintenance to and from the MN, transmitting, by the MN, the generated message to a first access node, where the access node adds an IP address of the access node to said message, analysing the message at the DHCP server

and the access node to determine a route to deliver data one or more of to the MN and from the MN, and triggering one or more route update messages from the access node and the DHCP server to a number of network elements between the access node and the DHCP server in the IP based data network, wherein the one or more route update messages from the access node and the DHCP server are triggered substantially simultaneously, and repeating said steps of generating, transmitting and forwarding for a second stateful IP autoconfiguration message that confirms the IP address of said mobile node when said mobile node attaches to a second access node. Accordingly, the applicants respectfully request that claim 1 may be passed to allowance.

Since claims 2-6 and 18-20 depend upon allowable claim 1, the applicants respectfully request that claims 2-6 and 18-20 also may be passed to allowance.

Rejection of claim 7 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Hennessey, Li, and Templin

The Examiner rejected claim 7 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of in view of Hennessey, Li, and Templin. Specifically, the Examiner contended that La Porta teaches a path set up message that is sent by an MN and is used to update routing table entries for selected routers (col. 16, lines 20-31), which message includes an MN IP address field used to inform the routes of the MN's current IP address (col. 18, lines 16-18; FIG. 9, item 314),, in response to receiving the message, a BS creating a routing entry for routing packets for delivery to the MN (col. 15, lines 7-8 and 21-25), and a path setup message sent by the BS to a root router to refresh routing table entries for those selected routers used for packet transport from the root router to the base station (col. 16, lines 34-38 and 43-46) (wherein col. 12, lines 28-34 teach that a dynamic host configuration protocol (DHCP) server may be implemented within a root router.

The Examiner acknowledged that La Porta does not teach stateful IPv6 autoconfiguration, a means for triggering a transmission of a route update message from an access node, or a substantially simultaneous triggering of a message from a node and a

server, but contended that Templin teaches stateful IPv6 autoconfiguration (paragraphs 0039-0042, 0271, 0272, and 0308), Li teaches a means for triggering a transmission of a route update message from an access node (col. 3, lines 63-65, and col. 6, lines 45-59; FIG. 1A), and Hennessey teaches a substantially simultaneous triggering of a message from a node and a server (col. 3, lines 50-56). However, as described in detail above, Hennessey does not teach the feature of claim 7 of substantially simultaneous triggering of one or more route update messages from the access node and the DHCP server to a number of network elements between said access node and said DHCP server in the IP based data network. Therefore, La Porta, Hennessey, Li, and Templin, individually or in combination, fail to teach all of the features of the network of claim 7 and, accordingly, the applicants respectfully request that claim 7 may be passed to allowance.

Since claims 8-10, 12, 13, and 15-17 depend upon allowable claim 7, the applicants respectfully request that claims 8-10, 12, 13, and 15-17 also may be passed to allowance.

As the applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter. Furthermore, please charge any additional fees (including extension of time fees), if any are due, or credit overpayment to Deposit Account No. 50-2117.

Respectfully submitted,

Alexandru Petrescu et al.

By: /Steven May/

Steven A. May

Attorney for Applicants

Registration No. 44,912

Phone No.: 847/576-3635

Fax No.: 847/576-3750